URBAN AND REGIONAL LAND USE ANALYSIS: CARETS AND CENSUS CITIES EXPERIMENT PACKAGE

SKYLAB/EREP INVESTIGATION NO. 469
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MONTHLY PROGRESS REPORT

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a. Overall status, including problem areas and significant progress to date:

a.1. CARETS -- Land use analysis: During this reporting period selected Skylab frames were sent to a commercial photo lab for enlargement. These frames were returned and the enlargements were of good quality. Detailed analysis has not yet begun although several "quick-look" observations have been made. The S190B image of August 5, 1973 covering the entire Baltimore-Washington Metropolitan area was examined at three scales of enlargement. It was primarily tested for urban land use data content at the film resolution/enlargement limit. Findings from this brief inspection indicate that the S190B system is capable of detecting single family residential units. In looking at three different subdivisions, ranging in age from old to new, this demarcation was possible, although individual dwelling units were not resolvable. In this respect the Skylab photo falls short of the aircraft photography. Commercial, industrial and industrial park categories were all discernible on the Skylab photo. Areas being cleared, i.e. undergoing land use change, were quite distinctive on the color film. Disturbed soil had a reddish color.

a.2. CARETS -- Land use climatology: During the period of this report Robert Alexander visited Dr. Robert Pease at the University of California, Riverside. There he examined Dr. Pease's optical integrater method for quantifying energy level data from the Thermal scanner data acquired during NASA aircraft mission 55M over Baltimore. Thermal contour maps are produced by this method through computer plots. This information is being assembled in a report to be released within the next two months. This method of using film data, not tape, is being perfected for use with S-192 data in the event that direct mapping from the tapes is not possible.

a.3. Census Cities: No change.

b. Recommendations concerning decision and/or actions required to ensure the attainment of the experiment's scientific objectives:
No change.

c. Expected accomplishments during the next report periods:
1) Continue land use analysis of urban area S190A and S190B data.
2) Put finishing touches on optical integrating technique for deriving net radiation maps from thermal imagery, as back-up technique for processing of data from S-192 scanner.
3) Prepare for user evaluation of Skylab data from CARETS area.

d. Significant results and their relationship to practical applications or operational problems: No change.

e. Summary outlook for the remaining effort to be performed: No change.

f. Travel summary and plans: Drs. John Lewis and Robert Pease presented a paper entitled "Application of Remote Sensing in Urban Climatology" to the 7th International Conference on Cartography, ICA, in Madrid, Spain on the 2nd of May.

Robert Alexander presented an invited paper on Skylab entitled "The View from Skylab: Implications for Tomorrow's Cities" at the UCLA Extension Special Science Program, in Los Angeles on the 11th of May.

Approved:

Robert H. Alexander
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